DOCUMENT RESUME

ED 391 418 HE 028 854

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TITLE Student Predisposition to College in High Minority Enrollment, High School Lunch Participation Schools. ASHE Annual Meeting Paper.
PUB DATE 25 Sep 95
NOTE 43p.; Paper presented at the Annual Meeting of the Association for the Study of Higher Education (20th, Orlando, FL, November 2-5, 1995).
PUB TYPE Reports - Research/Technical (143) -- Speeches/Conference Papers (150)

EDRS PRICE MF01/PC02 Plus Postage.
DESCRIPTORS *Academic Aspiration; After School Programs; College Bound Students; Grade Point Average; Higher Education; Junior High Schools; Junior High School Students; Longitudinal Studies; *Low Income Groups; *Minority Groups; Parent Attitudes; *Predictor Variables; *Racial Differences; School Activities; Socioeconomic Influences; Student Attitudes; *Student Participation
IDENTIFIERS *ASHE Annual Meeting; National Education Longitudinal Study 1988

ABSTRACT

This study examined variables related to college predisposition among students of different ethnic groups who attended schools enrolling high percentages of minority students and high percentages of students participating in free or subsidized school lunch programs. It is based on a subset of data from the 1988 National Education Longitudinal Study, namely 739 African American, 727 Hispanic, 329 Anglo American, 120 Asian/Pacific Islander, and 62 Native American eighth graders. In the analysis of the overall eighth grade model, participation in school activities was significantly associated with background variables such as high family socioeconomic status, for example, and was itself a significant variable in modeling predisposition to attend college. However, in the aggregate model of eighth graders at high minority enrollment, high school lunch program participation schools, ethnicity was the only background variable significantly associated with school activities participation, and such participation proved to be insignificant in modeling college predisposition. Explained variance in college predisposition was highest for the model using data from eighth graders in general (50 percent) and lowest in the model using African American student data (21 percent). An appendix contains a list of variables and other statistical data. (Contains 16 references.) (MDM)

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ED 391 418

Date of Draft: September 25, 1995

Student Predisposition to College in High Minority Enrollment, High School Lunch Participation Schools

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AE 027854

Paper presented at the annual meeting of the Association for the Study of Higher Education (1995, November), Orlando, FL.

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This paper was presented at the annual meeting of the Association for the Study of Higher Education held at the Marriott Hotel, Orlando, Florida, November 2-5, 1995. This paper was reviewed by ASHE and was judged to be of high quality and of interest to others concerned with the research of higher education. It has therefore been selected to be included in the ERIC collection of ASHE conference papers.

Abstract

This study examined variables related to college predisposition among students of different ethnic groups who attended schools enrolling high percentages of minority students and high percentages of students participating in free or subsidized school lunch programs. Five linear structural models using the same set of variables were analyzed using Base Year (eighth grade) NELS:88 student-level data. First was an aggregate model with data drawn from the sample of all eighth graders. The second used data from students attending schools in which at least 41% of the students were ethnic minorities and at least 51% of the students in the school participated in the free or subsidized school lunch program. Finally, the model was run separately on sub-samples of Hispanic, African American, and Anglo students attending these schools. Some factors such as parental expectations, family socioeconomic status, and student GPA were relatively consistent predictors of college predisposition, but others such as school activities and gender, were not uniformly significant across the five models. Explained variance in college predisposition was highest for the first model using data from eighth graders in general (50%) and lowest in the model using African American student data (21%). Results suggest that important distinctions in college predisposition among student groups are overlooked in models that use broadly aggregated student data.

Introduction and Statement of Purpose

The student college choice process has been examined extensively in the past 25 years, and many theoretical models of this process have been proposed and tested during this time. One commonly-used model combined aspects of economic and status attainment models of this process into a three-stage model of student college choice: predisposition, search, and choice (Hossler and Gallagher 1987). This study focuses on the first stage of student predisposition to college. Of particular interest in this study is that minority students, when compared with other students, tend to have higher educational expectations for themselves (Hossler and Stage 1992), and their parents have high expectations for students' college achievement.

Most studies of student predisposition to college examine variables within large nationally-representative data sets, aggregating data so that students from a variety of secondary school environments are included. For example, in aggregate data sets, information on students from wealthy and elite prep schools is included for analysis with information on students attending much more poorly funded inner-city or rural schools. Although such a sample is broadly representative of the range of students in different types of schools, aggregation could also mask the importance of some variables in modeling college predisposition

among certain groups of students and therefore misrepresent the influence of some variables on specific populations of students.

For example, in a school with few resources, counselors' time might be spent working with students on behavioral problems and family concerns. College choice matters, as comparatively less pressing concerns, may be handled by individual teachers and, in some cases, by the aspiring students' families. Including students from this kind of school in an aggregate analysis on college predisposition together with students from schools with greater resources veils the importance of individual teachers' and parents' roles in many students' decisions about college. Additionally, results of such an aggregated study may prompt researchers to suggest that students and counselors work closely on college decision making matters--something unlikely to happen in certain schools. Although nationally representative data sets allow us to reach broad conclusions, another value of these data sets lies in the opportunity to disaggregate data for separate or comparative analysis. For example, this approach to data analysis and model testing allows us to learn more about experiences of specific groups of students enrolled in specific types of schools. In this study, we demonstrate the value of such data set disaggregation in understanding the educational phenomenon of student predisposition to college.

Although much research on student college choice has been conducted on high school age students (e.g., Litten 1982; Manski

and Wise 1983; Tuttle 1981), researchers have more recently posited that students begin negotiating the college choice process earlier than previously suspected. For example, Schmit (1991) suggested that eighth grade and even seventh grade students have begun a form of postsecondary searching by virtue of exposure--albeit passive--to older siblings' and friends' postsecondary search activities. Additionally, student preparation for postsecondary education includes choices about high school curriculum that can be made as early as the eighth or ninth grade years (Schmit 1991). Thus, a focus on early aspects of postsecondary decision-making and, in particular, predisposition to college attendance among middle school students, is needed to determine factors of influence for these younger students.

The purpose of this study was to examine variables related to predisposition to college for eighth-grade students attending schools with a high percentage of minority students and a high percentage of students receiving free or subsidized school lunches.[1] Separate models were also examined for Hispanic, African American, and Anglo students attending these selected schools. Three research objectives guided this study:

1) to determine whether differences based on school

[1]The National School Lunch Program, administered by the U.S. Department of Agriculture, makes free or reduced price lunches available to students from households with incomes at or below 130% and 185%, respectively, of the poverty line (1994 Catalog . . . 1994).

environment might be masked by an aggregate model using data drawn from all eighth graders.

2) to test the efficacy of a college predisposition model with an aggregate student group representing high minority, high free lunch participation schools.

3) to determine whether differences based on ethnicity existed for three groups of students attending these schools.

Database and Model

Database

The NELS:88 data set is one part of an effort by the National Center for Education Statistics (NCES) and the United States Department of Education to study "the educational, vocational, and personal development of students at various grade levels, and the personal, familial, social, institutional, and cultural factors that may affect that development" (Pieper, Scott and Bartot 1993, p. A-1). Collection of student, school, teacher, and parent data began in 1988 in the students' eighth grade year, and follow-ups were conducted in 1990 and 1992.[2]

Specification of the Structural Model

Researchers have found that parents' education (Carpenter and Fleishman 1987; Jackson 1986), parents' expectations for

[2]These data are available in CD-Rom format from NCES. Supplemental data files including files on student dropouts, early graduates, high school transcripts, and language minority students are also available.

their students (Ekstrom 1985; Conklin and Dailey 1981), and students' high school experiences including grades and activities (Carpenter and Fleishman 1987; Manski and Wise 1983), are significantly related to students' predisposition to college. According to Hossler and Stage (1992), "recent studies on the role of gender in aspirations for postsecondary participation are contradictory" (p. 434). They cited studies in which gender was found to have no impact (e.g., Carpenter and Fleishman 1987; Elsworth 1982) as well as their own earlier research (Stage and Hossler 1989) that found gender to be significantly related to family support of students' postsecondary plans.

The Hossler and Stage (1992) model of ninth grade student predisposition examined relationships between student background characteristics, school experiences, and predisposition. This model was adopted for use in this study of college predisposition among groups of eighth grade students. All of the variables selected for inclusion in the model, with the exception of the SES variable, were student-level variables extracted from the base year survey (eighth-grade) of the NELS:88 data set. The model variables included family socioeconomic status[3], student gender, ethnicity, parents' expectations for their child's educational attainment, student participation in school

[3]The Base Year SES variable was constructed by NCES using the following parent questionnaire data: father's and mother's education levels, father's and mother's occupation, and family income. The SES quartile variable used in this research reflects the quartile rank of the computed SES value.

activities, GPA, and student educational plans, which included predisposition to college attendance. Appendix A contains the list of variables used in this study.

Weighted covariances of these variables[4] were used to analyze a total of five structural models: (1) eighth-grade students regardless of school characteristics; (2) eighth-grade students attending high minority enrollment, high school lunch participation schools; and (3) Hispanic students, (4) African American students, and (5) Anglo students attending high minority enrollment, high school lunch participation schools. Means, standard deviations, and covariances for all five groups are presented in Table 1.

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Insert Table 1 about here.

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Method

Examination of sample sizes revealed 20,233 eighth grade student cases with no missing data on the variables of interest and a sub-sample of 1,977 student cases from schools with the selected levels of minority enrollment (over 40%) and school lunch program participation (more than 50%). In the sub-sample

[4]Cases were weighted using the BYQWT value recommended by NCES for cross-sectional student-level analyses. All results reported here were derived from use of weighted covariances, but the same five models were also run using unweighted covariances, resulting in similar effect sizes and significances.

of students at the selected schools, 739 were African American, 727 were Hispanic, 329 were Anglo American, 120 were Asian/Pacific Islanders, and 62 were Native American. Due to their small representation, the last two groups of student data were not used in the disaggregate model analysis. Furthermore, we decided to standardize all five sample groups at n=300 since random selection would preserve sample variance yet reduce the possibility of inflated statistical significance associated with extremely large sample sizes.

After extracting the variables of interest, the model was first analyzed using an aggregate group of 300 eighth graders randomly selected from the overall sample of 20,233. Then, the same model was analyzed using 300 cases randomly selected from among the 1,977 students attending the schools of interest.

Finally, random samples of 300 cases were drawn from the subgroups groups of Hispanic, African American, and Anglo American students attending schools with the selected characteristics. The same structural model, excluding the Ethnicity variable, was analyzed using data from each of these three subgroups.

Analysis

The causal analysis technique LISREL was employed to examine relationships within the causal model. While LISREL is frequently used to analyze structural relationships among latent

variable constructs, it was employed in this analysis of directly measured constructs. LISREL was chosen over ordinary least squares analysis because assumptions for the analysis technique are less restrictive in terms of type and distribution of variables. Additionally, LISREL was selected to take advantage of diagnostics provided with output and the relative ease of comparison between specified models. Employing single indicators in an analysis does not employ LISREL's full range of capabilities, however, neither does it violate the assumptions required for using LISREL (Bollen 1989; Long 1983).

In analyzing model fit to the subsample data, t-test results were used to identify significant paths, and modification indices were consulted to determine successive model adjustments.[5]

Results

Aggregate Models

Figures 1 and 2 show the reduced path models for the two aggregate groups. In the first model, a subset of all eighth

[5]The fit of all five models was judged to be good. For Model 1, the chi-square (4 df) = .44, with a p=.979. The goodness of fit index (GFI) was 1.00, with a .997 adjusted goodness of fit (AGFI) and a .006 root mean square residual (RMSR). Model 2 had a chi-square (5 df) of 1.84 (p=.871), with a .998 GFI (.990 AGFI). The RSQR was .044. Model 3's chi-square (4 df) was 2.51 with p=.643. Model 3 had a .997 GFI (.985 AGFI) and a RMSR of .055. The chi-square (4 df) of Model 4 was .80, with p=.938. The GFI was .999 (.995 AGFI), and the RMSR was .036. Model 5 had a chi-square (3 df) of .20, with p=.977 and GFI of 1.00 (.998 AGFI). The RMSR of Model 5 was .020.

grade students, significant factors included family SES, ethnicity, parental expectations, GPA, and participation in school activities. Family SES was a particularly critical variable in this model, since it was significantly associated with each of the selected endogenous variables including the outcome variable. Anglo ethnicity was positively associated with GPA, and minority group ethnicity was negatively associated with GPA. Gender was not a significant direct or indirect predictor, and ethnicity was significant only as a predictor of GPA. This model was robust, explaining 50% of the variance in postsecondary aspirations, with several significant causal paths as shown in Figure 1.

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Insert Figures 1 and 2 about here.

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The model was initially run with a fixed zero path from SES to College Predisposition; our assumption was that effects of SES would be mediated through the first block of endogenous variables. This initial run, with the SES direct effects path fixed, resulted in a chi square of 20.0 for 5 degrees of freedom and a p=.001, indicating a significant model. Modification indices suggested a strong direct relationship between SES and College Predisposition, therefore the path was freed in subsequent analysis of this model.

Analysis of students attending high minority enrollment and high school lunch program participation schools (see Figure 2) resulted in changes to the model. Significant predictors of college predisposition again included family SES, parental expectations and GPA. However, analysis of the model also indicated that participation in school activities was not significant predictor of college predisposition for students at this subgroup of schools. Furthermore, ethnic minority students at these schools participated in school activities at significantly higher rates than Anglo students.

Although gender was not a significant variable in the first aggregate model, it was an important indirect factor in Model 2. Being female was significantly and positively associated with parental expectations and GPA. Model 2 explained 36% of the variance in college predisposition compared with 50% explained by Model 1. As in Model 1, family SES remained a significant direct predictor of the final criterion variable of college predisposition.

Disaggregated Models

Table 2 contains standardized path coefficients and Table 3 presents the direct, indirect and total effects for the remaining three models. Figures 3, 4, and 5 present the reduced path models.

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Figures 1 and 2 about here.

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Hispanic students:

The reduced model for Hispanic students attending schools with high minority enrollment and high school lunch program participation is shown in Figure 3. Family SES had a significant direct effect on college predisposition as well as indirect effects through the variables of parental expectations and GPA. Although SES and gender were also significantly related to participation in school activities, participation in school activities was not related to the outcome variable of college predisposition. This model explained 34% of the variance in college predisposition among these students. The proportion of variance explained by this model is about the same as the explained variance in Model 2--the aggregate high minority enrollment, high school lunch participation model. In Model 3 both gender (i.e., being male) and SES were significantly related to school activities participation, but as in Model 2, activities participation was a relatively unimportant factor in the model since it was not subsequently a predictor of the level of educational aspirations of these students.

African American students:

There were fewer significant causal paths in the model using data from African American students at high minority enrollment, high school lunch participation schools (see Figure 4). Unlike the three previous models, family SES did not have a significant direct effect on African American students' college predisposition. However, family SES was significantly related to the two intervening variables of parental expectations and GPA that are subsequently associated with college predisposition. The variable of gender (i.e., being female) was significant to this model because of its relationship to the intervening variable of GPA. As in Model 3 of Hispanic students, participation in school activities was not significantly associated with college predisposition. The model for African American students accounted for 21% of the variance in predisposition--the smallest proportion of explained variance among all five models. Participation in school activities was the least important variable in this model since it was associated with no other variables.

Anglo students:

As in the two other disaggregated models, Anglo students' parental expectations and GPA were each significantly related to college predisposition, and participation in school activities was not related to predisposition (see Figure 5). Like the Hispanic student model but unlike the African American student

model, family SES had a significant direct effect on Anglo students' predisposition. In Model 5, SES was also significantly related to the endogenous variables of parents' expectation, GPA, and participation in school activities. Gender (in this case, being female) was significantly related to GPA. The proportion of variance in college predisposition explained by Model 5, 35%, was approximately the same proportion explained by the Hispanic student model (Model 3) and the aggregate high minority enrollment, high school lunch participation model (Model 2).

Limitations

There were limitations to this study, including the range of generalizability that is warranted. The student groups in this study were identified not only through the ethnicity variable but also through variables descriptive of school characteristics. Therefore, results of the subgroup analysis ought to be generalized only to populations of students attending schools with similar characteristics. Additionally, predisposition to college reported in students' eighth grade years may not remain the same through high school. This study is not longitudinal; we did not follow these students through subsequent NELS survey years to examine and model students' twelfth grade college predisposition (or aspects of the search or choice stages). However, current longitudinal research shows that predisposition to college remains remarkably consistent through the high school

years (Schmit and Hossler, 1995). This issue can be explored further as follow-up years of NELS data become available.

Second, while the three disaggregated models include data from students representing only the three selected ethnicities, the analysis of Models 1 and 2 included data from all five ethnicity categories represented in the NELS base-year data set for this variable. Ethnicity categories in the data set included Hispanic, African American, Anglo, Native American, and Asian American. The primary reason for not analyzing models using Native American and Asian American student data was the constrained size of sub-samples present in the selected school environments. Although the numbers of Native American and Asian American students in the overall eighth grade sample would have been adequate for analysis, very few of these students attended schools characterized by high minority enrollment and high participation in school lunch programs. Therefore, analysis of disaggregated models was not possible. However, the decision was made to include representation of all minority groups in the aggregate models because such representation would be characteristic of broad sample aggregation on which population generalizability and analysis is often based.

Additionally, quality and type of school experiences are likely to differ between middle school and high school settings, and such differences may be reflected in the status of students' college predisposition. For example, the choice of college

preparatory coursework and student persistence in these courses are more likely to occur in students' high school years. Nonetheless, as a study from a nationally representative sample, this work provided important information for those wishing to broaden knowledge of earlier stages of college predisposition as well as college predisposition among specific populations of students in certain school environments.

Discussion and Conclusions

One of the most striking results was the differing influence of students' participation in school activities on their college predisposition. In the analysis of the overall eighth grade aggregate model, participation in school activities was significantly associated with background variables such as high family SES, for example, and was itself a significant variable in modeling predisposition. This result is compatible with previous research (Hossler and Stage 1992; Manski and Wise 1983). However, in the aggregate model (Model 2) of students at high minority enrollment, high school lunch program participation schools, ethnicity (i.e., non-Anglo status) was the only background variable significantly associated with school activities participation, and such participation proved to be an insignificant variable in modeling college predisposition among these students. Disaggregation simply by school characteristics revealed the non-predictive role of school activities

participation in modeling these students' college predisposition. The subsequent models disaggregated by ethnicity confirmed the nonsignificance of the school activities path for each of the three student groups.

The predictive role of family SES differed among the disaggregated groups of students. For each of the three groups of students, parental expectations and GPA played significant predictive roles in modeling college predisposition. In each of the three models, family SES was significantly related to both of these intervening variables. For Hispanic and Anglo students, family SES was also separately and directly related to students' predisposition, but for African American students, SES was not a significant direct predictor. For African American students in the selected school environments, SES must instead be linked with intervening parental encouragement and high student GPA in order to be predictive of college predisposition…

While participation in school activities disappeared as a significant predictor of predisposition among students at high minority enrollment, high school lunch program participation schools, gender emerged as a significant factor in the models of these students' aspirations. In Model 1 (all eighth graders) gender was not significantly associated with any of the endogenous variables. However, analysis of Model 2 (eighth graders at the selected schools), revealed that gender (i.e., being female) was significantly related to both parental

expectations and GPA, two intervening variables each with significant associations to college predisposition in all five of the models.

However, subtleties surrounding the influence of gender emerged upon examination of the three disaggregated models. For example, among both African American students and Anglo students the association of gender and GPA was significant. In both of these groups, being female was significantly associated with a higher GPA. Among Hispanic students, however, gender had no predictive value for GPA.

Among Hispanic students, no significant association existed between gender and parental expectations. Additionally, only slight, non-significant relationships were found in the African American and Anglo student models between gender and parental expectations, even though the relationship was significant in the aggregated Model 2. The lack of significance between gender and parental expectations in the disaggregated models might suggest a combined effect that is not present in any one of the three groups, or it could be an artifact of the inclusion of Asian American and Native American data in the first two aggregate models (See Limitations section above). Finally, although no relationship existed between gender and activities in either of the aggregate models, gender was a significant predictor of activities participation among Hispanic students at the selected schools.

Clear gender differences by ethnicity existed in the three disaggregated models. Being an African American or Anglo female in the selected schools was associated with the intervening variable of GPA that is subsequently related to college predisposition. However, being a Hispanic male in the selected schools was significantly associated with the intervening variable of school activities participation that is not in turn related to college predisposition. These findings regarding gender raise concerns about possible differences in boys' and girls' experiences of the middle school environment as well as differential gender role socialization.

Implications

These results suggest that reliance on aggregate model analysis (i.e., ones in which grade level is the only common student characteristic) can indeed mask differences among the influences of certain variables on students' college predisposition. For example, in previous research conclusions regarding the importance of gender as a variable were mixed (e.g., Carpenter and Fleishman 1987; Elsworth 1982; Stage and Hossler 1989), and the subtleties associated with gender were not apparent in either of the two aggregate models in this study. As this study demonstrated, disaggregation by school environment and further disaggregation by ethnic group reveals the presence of

differential influences on college predisposition. This knowledge should prove useful in informing efforts to raise educational aspirations and increase college participation among students of diverse ethnic and socioeconomic backgrounds and diverse school environments.

Suggestions for Further Research

The African American student model in this study contained the fewest number of significant paths in the model. Analysis of this model revealed only five significant paths, while the Anglo student model and the Hispanic student model each contained seven significant paths among the selected variables. Additionally, the African American student model analyzed here explained comparatively less variance in college predisposition than the other two disaggregated models.

An examination of sub-group means, however, indicated that college predisposition among African American students in high minority enrollment, high school lunch program participation schools is high (see Table 1). The African American student mean score of 4.66 indicates that the average response falls between "Will attend college" and "Will finish college." This level of predisposition was almost identical to aspirations among all eighth grade students in the data set (mean score of 4.65) and was somewhat higher than the mean predisposition levels of Hispanic students or Anglo students (4.2 and 4.3, respectively)

who attended the selected schools. However, the African American model analyzed here explained comparatively less variance in this high level of predisposition to college, so it is likely that other important demographic and/or school experience variables impact predisposition among these students. In order to increase understanding of factors related to predisposition, these variables must be identified and incorporated into structural models.

In this study, the sum of reported participation in all school activities was calculated and used as the activities variable. Additionally, leadership in a school activity was given an extra point in the calculations (See Appendix A). As the mean scores indicate, students at the high minority enrollment, high school lunch participation schools (and particularly African American students) engaged in a greater number of school activities (and/or served as a leader in the activities) than did eighth graders overall. However, activities participation was not as strong a predictor of college predisposition in these schools as it was in the broadly aggregated models. To explore possible reasons why school activities participation was not related to college predisposition among students attending high minority enrollment and high lunch program participation schools, it may be fruitful to look for patterns in the types of school activities in which students engage. Another pattern of interest may be the type and

variety of activities that are offered in schools characterized by high minority enrollment and high school lunch program participation. If certain types of activities such as academic clubs, sports, leadership activities, or participation in cultural events are each more or less related to higher levels of college predisposition, then the summing of activities used as a variable in these models may well have masked these distinctions among school activities. For example, an unintended masking of effects may have occurred if leadership of school activities--over and above participation in activities--is a significant factor influencing college predisposition. We have begun a follow-up analysis of school activities and possible differential effects.

In general, this study has also illustrated problems with reliance on aggregated data analysis and modeling. The recent wide-ranging availability of large data sets has provided researchers the opportunity to aggregate broadly and, presumably, increase generalizability of findings. However, these same data sets offer opportunities for researchers to use multiple parameters for data disaggregation and thus pursue more narrowly and critically focused research, uncovering factors and effects that may otherwise be masked in broadly aggregated data.

REFERENCES

Bollen, Kenneth A. 1989. Structural Equations with Latent Variables. New York: Wiley.

Carpenter, Peter G., and John A. Fleishman. 1987. "Linking Intentions and Behavior: Australian Students' College Plans and College Attendance." American Educational Research Journal 24:79-105.

Conklin, Mary E., and Ann R. Dailey. 1981. "Does Consistency of Parental Encouragement Matter for Secondary Students?" Sociology of Education 54:254-62.

Ekstrom, Ruth B. 1985. A Descriptive Study of Public High School Guidance: Report to the Commission for the Study of Precollegiate Guidance and Counseling. Princeton, NJ: Educational Testing Service.

Hossler, Don, and Karen S. Gallagher. 1987. "Studying Student College Choice: A Three-Phase Model and the Implications for Policy Makers." College and University 62:207-21.

Hossler, Don, and Frances K. Stage. 1992. "Family and High

School Experience Influences on the Postsecondary Educational Plans of Ninth Grade Students." American Educational Research Journal 29:425-51.

Schmit, Jack L., and Don Hossler. (1995, April). "Where are They now?: A Nine-year Longitudinal Study of Student College Choice." Paper presented at the annual meeting of the American Educational Research Association, San Francisco.

Jackson, Gregory A. 1986. "MISSA, the Fall of Saigon, and College Choice, 1972 to 1980." Paper presented at the annual meeting of the Association for the Study of Higher Education, San Antonio.

Long, J. Scott. 1983. Covariance Structure Models: An Introduction to LISREL. (Quantitative Applications in the Social Sciences, #34.) Newbury Park, CA: Sage.

Litten, Larry H. 1982. "Different Strokes in the Applicant Pool: Some Refinements in a Model of Student College Choice." Journal of Higher Education 53:383-402.

Manski, Charles F., and David A. Wise. 1983. College Choice in America. Cambridge, MA: Harvard University Press.

1994 Catalog of Federal Domestic Assistance. 1994. Washington, DC: Superintendent of Documents, Government Printing Office.

Pieper, David, Leslie A. Scott, and Virginia H. Bartot. 1993. NELS:88 User's Guide for BY-F2 Electronic Codebook (ECB) on Compact Disc (Interim Version). Chicago, IL: National Opinion Research Center, University of Chicago.

Schmit, Jack L. 1991. An Empirical Look at the Search Stage of the Student College Choice Model. Unpublished doctoral dissertation. Bloomington, IN: Indiana University.

Stage, Frances K., and Don Hossler. 1989. "Differences in Family Influences on College Attendance Plans for Male and Female Ninth Graders." Research in Higher Education 30:301-15.

Tuttle, Ron. 1981. "A Path Analytic Model of the College Going Decision." Boone, NC: Appalachian State University. (ED 224 434)

Appendix A: List of Variables

Gender 1 'Male' 2 'Female'

Ethnicity 1 'Hispanic' 2 'African American' 3 'Anglo American' 4 'Native American' 5 'Asian American'
(Ethnicity variable recoded for aggregate Models 1 and 2: 0 'non-Anglo' 1 'Anglo')

SESQ - Socioeconomic Status (quartile variable calculated from Mother's and Father's education and income)
1 'Quartile 1, low' 2 'Quartile 2' 3 'Quartile 3' 4 'Quartile 4, high'

Parents' Educational Expectations (mean of Father's and Mother's Educational Expectations, each measured using the following scale. In the case of a missing value for one parent, data from the other parent was used.) 1 'less than high school' 2 'high school graduate' 3 'vocational, trade, or business school' 4 'attend college' 5 'graduate from college' 6 'higher school after college'

Participation in School Activities (computed using SUM.1 for the following activities): science fairs, varsity sports, intramural sports, cheerleading, band or orchestra, chorus or choir, dance,

history club, science club, math club, foreign language club, other subject matter club, debate or speech, drama, academic honors, student newspaper, yearbook, student council, computer club, religious organization, vocational education club.
0 'did not participate' 1 'member' 2 'officer'

GPA (computed using MEAN.1 of student-reported English, math, science, and social studies grades) 1 'mostly <D' 2 'mostly Ds' 3 'mostly Cs' 4 'mostly Bs' 5 'mostly As'

Student Predisposition to College 1 'won't finish high school' 2 'will finish high school' 3 'vocational, trade, or business school' 4 'will attend college' 5 'will finish college' 6 'higher school after college'

Variables used to disaggregate by eighth-grade school characteristics:

Percent Minority in School (selected student cases linked to values 5, 6, or 7) 0 'None' 1 '1-5%' 2 '6-10%' 3 '11-20%' 4 '21-40%' 5 '41-60%' 6 '61-90%' 7 '91-100%'

Percent Free Lunch in School (selected student cases linked to values 6 or 7) 0 'None' 1 '1-5%' 2 '6-10%' 3 '11-20%' 4 '21-30%' 5 '31-50%' 6 '51-75%' 7 '76-100%'

Table 1: Means, Standard Deviations, and Covariance Matrices.

Model 1: Eighth graders, All schools (n=300)

Variable	1	2	3	4	5	6	7
M	2.6037	1.4496	.7326	4.8715	3.9091	3.3235	4.6530
S.D.	1.0780	.4975	.4426	.9983	.7132	3.2170	1.2235
1. SESQ	1.1620						
2. Gender	-.0574	.2475					
3. Ethnicity	.1550	.0234	.1959				
4. Parents' expectations	.2634	-.0016	.0258	.9967			
5. GPA	.1771	.0133	.0642	.2041	.5086		
6. School activities	.4669	-.0284	-.0822	.1416	.2391	10.3492	
7. College predisposition	.4926	-.0130	.0365	.7394	.3916	.7823	1.4969

Model 2: Eighth graders, Selected schools (n=300)

Variable	1	2	3	4	5	6	7
M	1.7372	1.5299	.2185	4.6715	3.6968	3.9546	4.3629
S.D.	.8789	.4991	.4232	1.2286	.7615	4.8302	1.4462
1. SESQ	.7725						
2. Gender	-.0482	.2491					
3. Ethnicity	.0400	-.0016	.1708				
4. Parents' expectations	.1401	.0641	-.0230	1.5095			
5. GPA	.1399	.0663	-.0024	.2058	.5798		
6. School activities	.2538	-.1000	-.2819	-.0669	.1213	23.3313	
7. College predisposition	.2262	.0756	.0096	.9833	.3443	-.1515	2.0916

Model 3: Hispanic eighth graders, Selected schools (n=300)

Variable	1	2	3	4	5	6
M	1.6077	1.5055	4.4781	3.7134	3.5528	4.2287
S.D.	.8907	.5000	1.3707	.7292	4.6127	1.3393
1. SESQ	.7933					
2. Gender	-.0376	.2500				
3. Parents' expectations	.2461	-.0419	1.8788			
4. GPA	.0805	-.0225	.2614	.5318		
5. School activities	.9633	-.3273	1.2157	.5295	21.2769	
6. College predisposition	.2717	-.0104	.9162	.3930	1.1321	1.7939

Model 4: African American eighth graders, Selected schools (n=300)

Variable	1	2	3	4	5	6
M	1.6720	1.5526	4.9266	3.6422	4.5299	4.6643
S.D.	.8306	.4972	1.1193	.7571	4.5366	1.2534
1. SESQ	.6899					
2. Gender	-.0109	.2472				
3. Parents' expectations	.1469	.0479	1.2529			
4. GPA	.1414	.0409	.1483	.5732		
5. School activities	-.0154	-.0994	.0757	-.1168	20.5804	
6. College predisposition	.1484	.0334	.5559	.2724	-.1689	1.5710

Model 5: Anglo eighth graders, Selected schools (n=300)

Variable	1	2	3	4	5	6
M	2.1044	1.4723	4.4733	3.7197	3.3677	4.2812
S.D.	1.0371	.4992	1.2908	.7952	3.8023	1.4638
1. SESQ	1.0756					
2. Gender	-.0237	.2492				
3. Parents' Expectations	.3987	.0290	1.6662			
4. GPA	.2812	.0500	.3230	.6323		
5. School activities	.5003	-.0415	.3801	.3736	14.4575	
6. College predisposition	.4906	.0247	1.0440	.4031	.4895	2.1428

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Table 2: Standardized Path Coefficients for Reduced Models

Model 3: Hispanic eighth graders, Selected schools (n=300)

Independent Variable	Dependent Variable: Parents' expectations	GPA	School activities	College predisposition
SES	.310**	.101*	1.165***	.168*
Gender	.000	.000	-1.039*	.000
Parents' expectations	.000	.000	.000	.393***
GPA	.000	.000	.000	.520***
School activities	.000	.000	.000	.000

Model 4: African American eighth graders, Selected schools (n=300)

Independent Variable	Dependent Variable: Parents' expectations	GPA	School activities	College predisposition
SESQ	.216**	.208***	.000	.000
Gender	.203	.175*	-.402	.000
Parents' expectations	.000	.000	.000	.400***
GPA	.000	.000	.000	.372***
School activities	.000	.000	.000	.000

Model 5: Anglo American eighth graders, Selected schools (n=300)

Independent Variable	Dependent Variable: Parents' expectations	GPA	School activities	College predisposition
SESQ	.374***	.266***	.465*	.186**
Gender	.154	.228**	.000	.000
Parents' expectations	.000	.000	.000	.527***
GPA	.000	.000	.000	.286**
School activities	.000	.000	.000	.000

*p<.05 **p<.01 ***p<.001

Table 3: Unstandardized Direct, Indirect, and Total Effects

Model 3: Hispanic eighth graders, Selected schools (n=300)

	SESQ			Gender			Parents' expectations		
	Dir.	Ind.	Tot.	Dir.	Ind.	Tot.	Dir.	Ind.	Tot.
Parents' expectations	.310	0	.310	0	0	0	0	0	0
GPA	.101	0	.101	0	0	0	0	0	0
School activities	1.165	0	1.165	-1.039	0	-1.039	0	0	0
College predisposition	.167	.175	.342	0	0	0	.393	0	.393

	GPA			School activities		
	Dir.	Ind.	Tot.	Dir.	Ind.	Tot.
Parents' expectations	0	0	0	0	0	0
GPA	0	0	0	0	0	0
School activities	0	0	0	0	0	0
College predisposition	.520	0	.520	0	0	0

Model 4: African American eighth graders, Selected schools (n=300)

	SESQ			Gender			Parents' expectations		
	Dir.	Ind.	Tot.	Dir.	Ind.	Tot.	Dir.	Ind.	Tot.
Parents' expectations	.216	0	.216	.203	0	.203	0	0	0
GPA	.208	0	.208	.175	0	.175	0	0	0
School activities	0	0	0	-.402	0	-.402	0	0	0
College predisposition	0	.164	.164	0	.146	.146	.400	0	.400

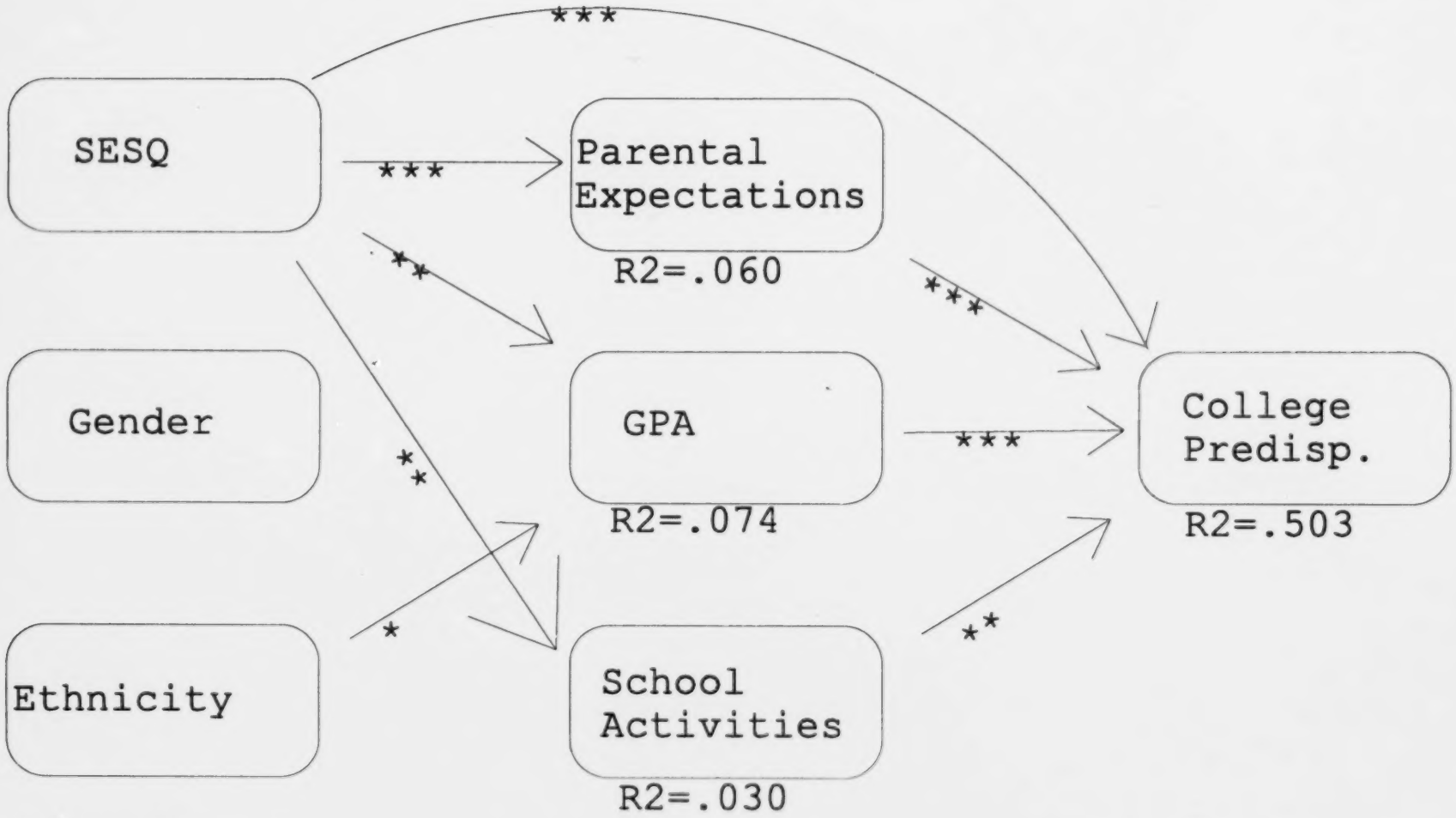
	GPA			School activities		
	Dir.	Ind.	Tot.	Dir.	Ind.	Tot.
Parents' expectations	0	0	0	0	0	0
GPA	0	0	0	0	0	0
School activities	0	0	0	0	0	0
College predisposition	.372	0	.372	0	0	0

Model 5: Anglo eighth graders, Selected schools (n=300)

	SESQ			Gender			Parents' expectations		
	Dir.	Ind.	Tot.	Dir.	Ind.	Tot.	Dir.	Ind.	Tot.
Parents' expectations	.374	0	.374	.154	0	.154	0	0	0
GPA	.266	0	.266	.228	0	.228	0	0	0
School activities	.465	0	.465	0	0	0	0	0	0
College predisposition	.186	.273	.459	0	.146	.146	.527	0	.527

	GPA			School activities		
	Dir.	Ind.	Tot.	Dir.	Ind.	Tot.
Parents' expectations	0	0	0	0	0	0
GPA	0	0	0	0	0	0
School activities	0	0	0	0	0	0
College predisposition	.286	0	.286	0	0	0

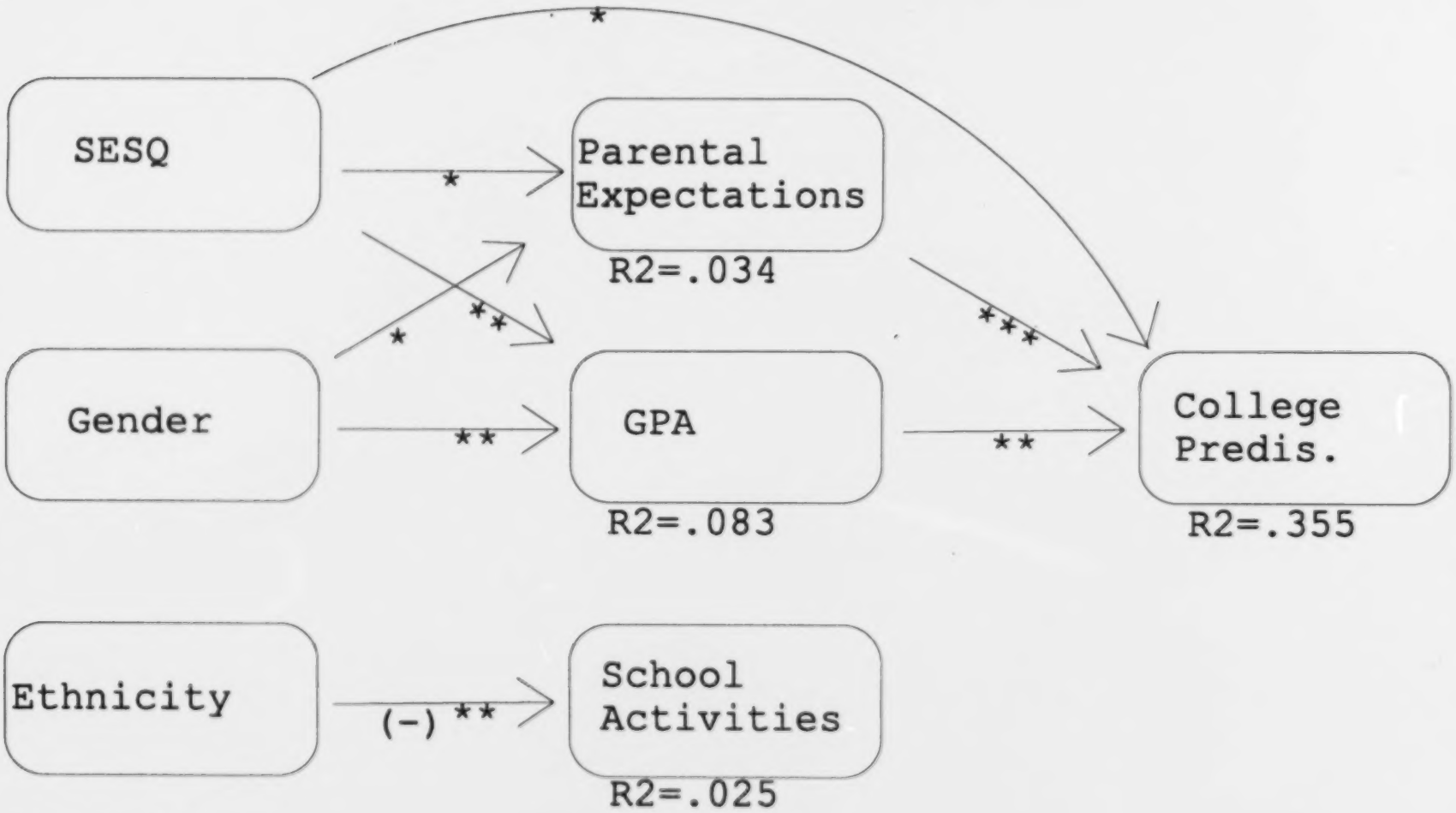
Figure 1: Eighth Graders, All Schools (n=300)



Chi-square (4 df) = .44
P = .979
GFI = 1.00
AGFI = .997
RMSR = .006

* p<.05; ** p<.01; *** p<.001

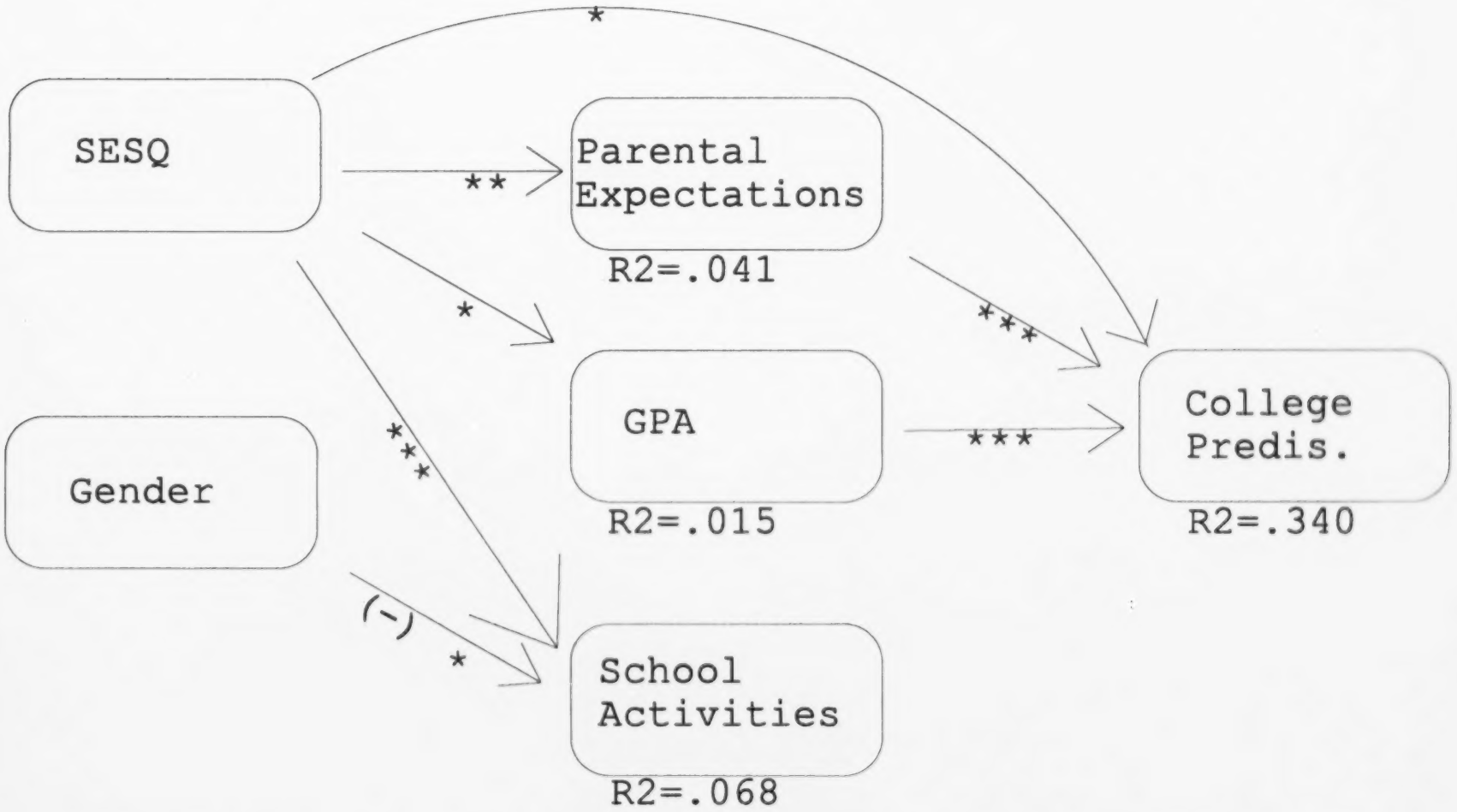
Figure 2: Eighth Graders, Selected Schools (n=300)



Chi-square (5 df) = 1.84
P = .871
GFI = .998
AGFI = .990
RMSR = .044

* p<.05; ** p<.01; *** p<.001

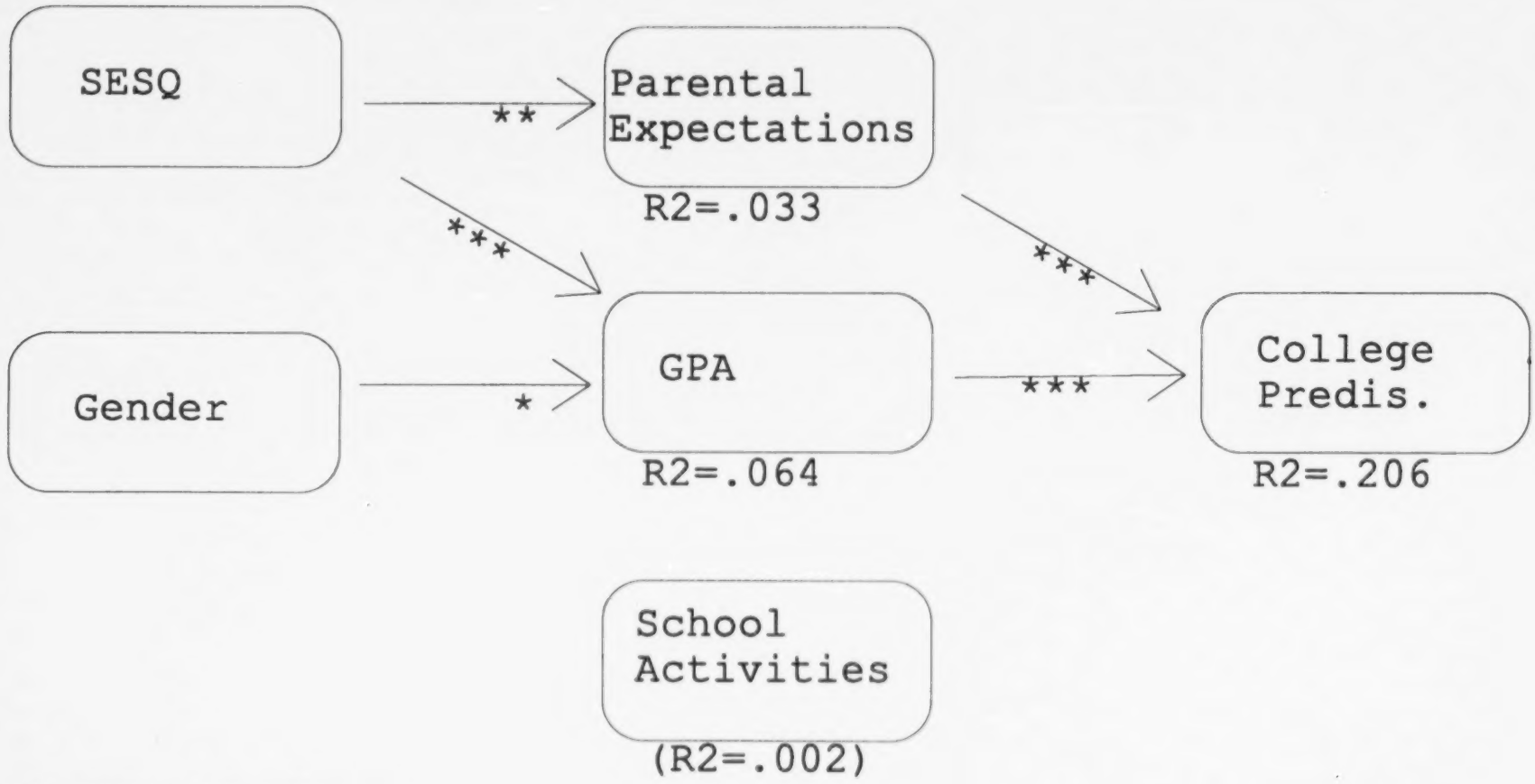
Figure 3: Hispanic Eighth Graders, Selected Schools (n=300)



Chi-square (4 df) = 2.51
P = .643
GFI = .997
AGFI = .985
RMSR = .055

* p<.05; ** p<.01; *** p<.001

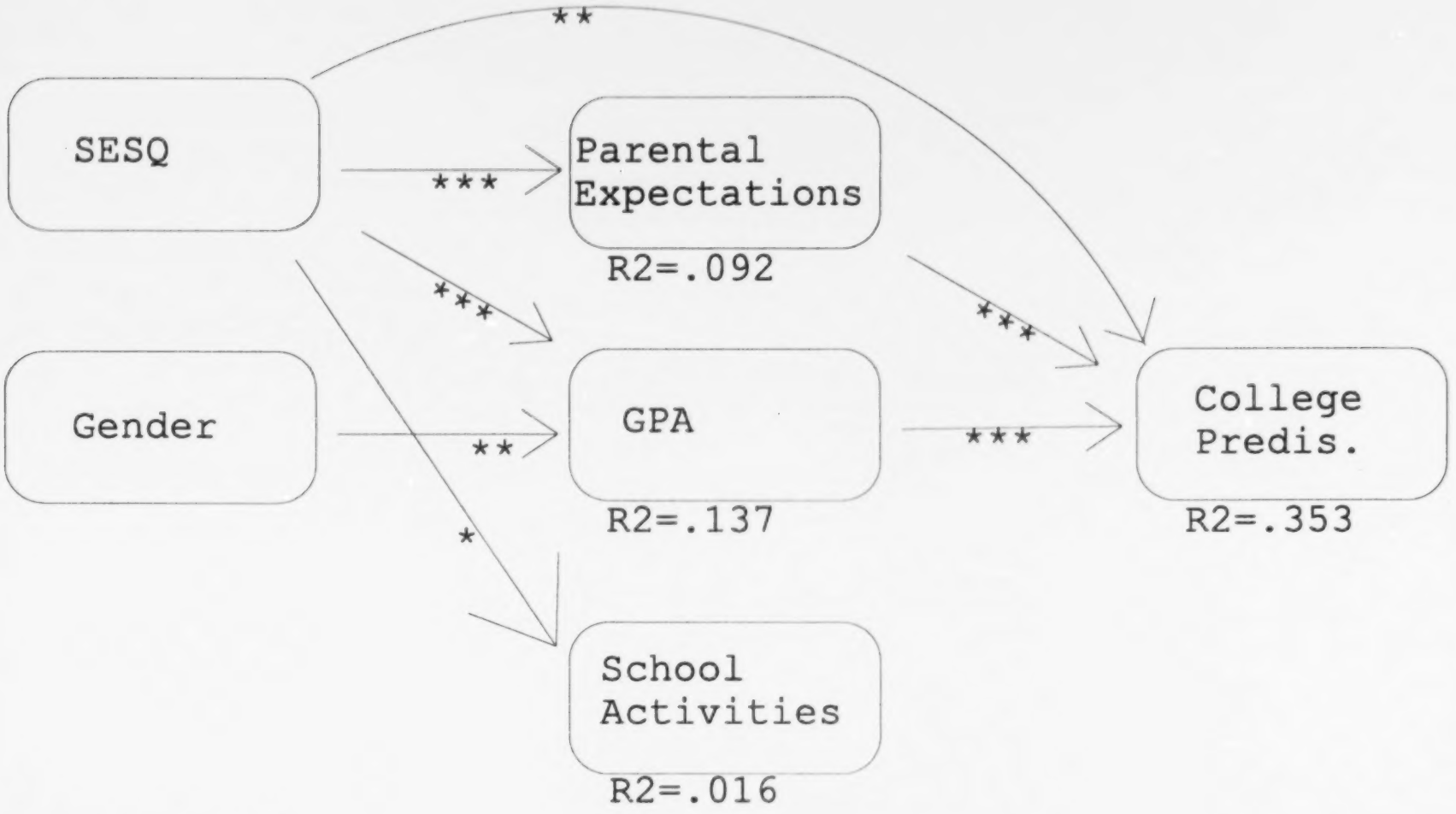
Figure 4: African American Eighth Graders, Selected Schools (n=300)



Chi-square (4 df) = .80
P = .938
GFI = .999
AGFI = .995
RMSR = .036

* p<.05; ** p<.01; *** p<.001

Figure 5: Anglo Eighth Graders, Selected Schools (n=300)



Chi-square (3 df) = .20
p = .977
GFI = 1.00
AGFI = .998
RMSR = .020

* p<.05; ** p<.01; *** p<.001